

490A

**Armco Waste Oil Management Area  
Waste Oil Collection System Cleanup**

**Terracon Project No. 50935129  
April 14, 1994**

Terracon Environmental, Inc.  
Kansas City, Missouri



R00301418  
RCRA RECORDS CENTER

**Terracon**

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# **Armco Waste Oil Management Area Waste Oil Collection System Cleanup**

Terracon

**Terracon Project No. 50935129  
April 14, 1994**

## **1.0 INTRODUCTION**

Due to revised waste oil management procedures, Armco World Wide Grinding Systems (Armco) removed the old waste oil storage tanks and associated collection systems from service in September of 1993. Armco now contracts with Safety Kleen for waste oil management. The waste oil system consisted of the following equipment:

- ◆ Two portable 500 gallon waste oil "hoppers."- The waste oil hoppers were placed at various locations at the Armco plant where waste oil was generated, when full, the hoppers would be brought to the waste oil collection system and dumped then returned to the locations where waste oil was generated.
- ◆ Two waste oil dump stations and piping to the tanks. - The dump stations contain screens that filter out large debris in the waste oil before the waste oil enter the waste oil tanks.
- ◆ Two 50,000 gallon above ground waste oil storage tanks.

Terracon was tasked by Armco to decon the waste oil collection system. The system was to be cleaned sufficiently enough for Armco personnel to then cut up the system for metal recycling with cutting torches.

During past use of the waste oil collection system, waste oil was inadvertently spilled around the collection tanks resulting in waste oil stained soil being present in the area. Samples of the soil were collected in June of 1993 and analyzed for Resource Recovery and Reclamation Act (RCRA) and petroleum constituents. Results of these samples demonstrated the absence of any RCRA constituents. In October, 1993, Armco requested and received approval from MDNR to dispose of waste oil contaminated soil at the Laidlaw landfill in Kansas City, Missouri. This plan also describes the procedures that will be used to remove the waste oil contaminated soil from the site. Removal of any petroleum impacted soil around the waste oil collection system will be undertaken in the future at a date to be determined.

## **2.0 SITE SAFETY**

All personnel involved in the cleanup of the waste oil system had completed an OSHA Hazardous Waste Operations Personnel (HAZWOPR CFR 29 1920.120) 40 hour training course and were also current with the additional annual training updates

required by that regulation. All decon operations were performed in modified EPA personnel protection level D. Confined space entry regulations followed prior to the initial entry of the tanks. To reduce the restrictions of confined space entry regulations the ends of the tanks were cut out with a non-sparking air powered metal cutter. By cutting the ends off of the tanks, the confined space designation was removed.

Personnel performing soil removal activities will wear work clothes that include hard hats, steel toed shoes, and safety glasses. If any unexpected material is encountered during the excavation, operations will cease and the site conditions will be re-evaluated before soil removal operations continue.

### 3.0 SITE OPERATIONS

Prior to initiating the cleaning of the waste oil system, the soils around the system were tested for Resource Recovery and Reclamation Act (RCRA) constituents using the Toxic Characteristic Leaching Procedure (TCLP) and for total petroleum hydrocarbons (TPH). The soils passed the TCLP test therefore they are not hazardous waste or contaminated with hazardous waste. The analytical results are included in Appendix A. The soils did contain 1600 mg/kg TPH therefore they are a special waste.

Any waste oil residue that remained in the system was stabilized with diatomaceous earth (oil dry), containerized in 55 gallon UN1A2 open head steel drums and transported to Laidlaw Southeast Landfill for disposal. Armco has an active Missouri Department of Natural Resources (MDNR) disposal permit for stabilized non-hazardous waste oil and grease at the Laidlaw Southeast landfill. Prior to transporting the drums to the landfill, a staging area was located in the #1 Melt Shop building.

The waste oil collection system was cleaned with a high pressure hot water sprayer (HPHW). By using the HPHW sprayer the amount of waste water generated was greatly reduced. Armco contracted Safety Kleen to remove the waste oil contaminated water from the site during the project.

Site operations were began on September 7, 1993. The initial operation was to cut the ends out of the two 20,000 gallon tanks. The task of cutting the ends out of the tanks was completed on September 9, 1993. The next task of staging of oil dry and storage drums was completed on September 13, 1993. Next the 500 gallon waste oil hoppers were cleaned so that Armco could return them to service. The waste oil dump stations were then cleaned and the catwalks and piping cut away from the tanks. After



any metal parts were cleaned, Armco personnel transported them to the recycling area. Cleaning of the dump stations and removal of the catwalks and piping from the tanks was completed on September 16, 1993.

The cleaning of the waste oil tanks was began on September 17, 1993. The residue that remained attached to the sides of the tanks was first scraped to the bottom of the tanks. Sufficient oil dry was then mixed with this sludge so that it would pass the paint filter test as required in the disposal permit. The oil dry sludge mixture was then shoveled into the 55 gallon drums and the filled drums were then transported to the staging area in the #1 Melt Shop. After scraping the residue from the walls, they were cleaned with the HPHW cleaner. Safety Kleen staged a vacuum truck at the site to collect the waste water as it was generated. The cleanup operations were completed on September 21, 1993. The drums of oil dry sludge mixture were transported to the Laidlaw southeast landfill on December 20, 1993.

Waste oil stained soil will be excavated, loaded into open dump trucks, and transported to the Laidlaw landfill. Oil stained areas will be excavated in approximate 6 inch lifts until the visual evidence of staining is gone. It is estimated that excavation to a depth of 2 feet below grade will be required to remove the stained soil. The total quantity of soil to be removed is not expected to exceed 1,000 cubic yards. Excavated areas will be backfilled with crushed slag available at the Armco facility. Excavated areas will be compacted to a density necessary to meet the needs of the location's future use.

Soil removal operations will be monitored by a third party in order for Armco to prepare a final report outlining site operations; amounts of contaminated soil removed; amount of backfill used; and any other significant observations.

#### **4.0 GENERAL COMMENTS**

Terracon was tasked by Armco to decon the waste oil collection sufficiently so as to allow them to recycle the metal in their plant. Terracon personnel and it's subcontractor began operations on September 7, 1993. Site operations were completed on September 21, 1993. The metal tanks and collection system was recycled by Armco. Approximately 2000 gallons of oily water and 21 drums of oil dry sludge mixture were generated during the cleaning process. Impacted soil will be removed from the site in the future at a date to be determined.

Waste Oil Collection System  
Operations Report  
Project No. 50935129  
April 14, 1994  
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Terracon

This report has been prepared for the exclusive use of our client for specific application as discussed. It is intended as a description of the cleaning of the waste oil collection system, and has been prepared in accordance with generally accepted engineering practices, within the constraints of the client's directives.

No warranties, express or implied, are intended or made. Conclusions drawn by others from this report, as described in our proposal, should recognize the limitations of this report.

Terracon

**APPENDIX A: Special Waste Permit Application,  
Analytical Data and Approval for Disposal of  
Oil Impacted Soil (December 1992)  
(includes RCRA - TCLP Testing)**

July 15, 1993

Ms. Carla McDowell  
Industrial Waste Approvals  
Laidlaw Waste Systems  
83rd & Indiana  
Kansas City, MO 64132

# Terracon

ENVIRONMENTAL, INC.

7810 N. W. 100th  
Kansas City, Missouri 64153  
Phone (816) 891-7717  
Fax (816) 891-7048

James A. Cunningham, P.E.  
Robert L. Sholar  
S. Randy Alewine, P.E.  
G. M. Zemansky, Ph.D., PHGW.  
Robert L. Fine, II, P.E.  
Michael S. Kukuk, PG.  
Sharon T. Arteaga, P.E.  
Julie H. Pflugradt


out  
7-15-93

Dear Ms. McDowell:

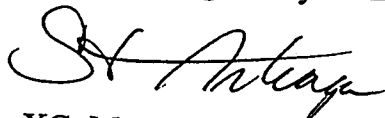
Enclosed with this letter you will find a completed Laidlaw special waste acceptance application, completed MDNR special waste disposal request, and analytical data for the soil at the Armco Waste Oil storage area. Terracon appreciates your timely consideration of this waste stream. If you have any questions please call this office.

Sincerely,

TERRACON ENVIRONMENTAL, INC.

  
Michael W. McMenus, CHMM  
Environmental Scientist

S. T. Arteaga, P.E.  
Manager Regulatory Compliance



XC: Mryl Wear, Armco Steel

Attachments

MWM/mwm  
C:\wp51\files\mwm\armco11.ltr

Offices of The Terracon Companies, Inc.:

Arizona Tucson ■ Colorado Colorado Springs, Denver, Ft. Collins, Greeley, Longmont ■ Idaho Boise  
Illinois Bloomington, Chicago, Rock Island ■ Iowa Cedar Falls, Cedar Rapids, Davenport, Des Moines, Storm Lake  
Kansas Topeka, Topeka, Wichita ■ Minnesota St. Paul ■ Missouri Kansas City ■ Nebraska Lincoln, Omaha  
Oklahoma Oklahoma City ■ Texas Dallas ■ Utah Salt Lake City ■ Wyoming Cheyenne

QUALITY ENGINEERING SINCE 1965

Code #

# LAW Special Waste Acceptance Application

Generator Name: ARMCO STEEL  
 Address: 7000 ROBERTS  
KANSAS CITY MO 64125  
 Telephone: (816) 242-5855  
 Generator Contact: MYRL WEAR  
 General Material Description: SOIL + ROCK CONTAMINATED WITH WASTE OIL Other \_\_\_\_\_

Originating Division: \_\_\_\_\_  
 Disposal Facility: \_\_\_\_\_  
 Location: \_\_\_\_\_  
 Waste Quantities: 1000 Units: Cubic Yds. ☒ Tons ☐  
 Frequency of Receipt: Daily ☐ Weekly ☒ Monthly ☐ One Time ☐

Process Generating Waste: CLEAN UP OF WASTE OIL STORAGE AREA

Physical Properties: Physical State at 70°F: Solid ☒ Semisolid ☐ Liquid ☐ Density: \_\_\_\_\_ #/CY Color: \_\_\_\_\_  
 Viscosity: Low ☐ Medium ☐ High ☒ Flash Point: 7200°F Odor: Yes ☐ No ☒  
 Water Content: 15 % by Weight Paint Filter Test: Passed ☒ Failed ☐  
 Reactive: No ☒ Yes ☐ With \_\_\_\_\_  
 Waste pH: \_\_\_\_\_ Infectious: Yes ☐ No ☒

Chemical Properties: (Concentrations in mg/l)

(TCLP)	Arsenic	<u>ND</u>	m-Cresol	_____	Hexachlorobenzene	_____	Pyridine	_____
	Barium	<u>ND</u>	p-Cresol	_____	Hexachlorobutadiene	_____	Selenium	<u>ND</u>
	Benzene	<u>ND</u>	Cresol	_____	Hexachloroethane	_____	Silver	<u>ND</u>
	Cadmium	<u>ND</u>	2,4-D	<u>ND</u>	Lead	<u>ND</u>	Tetrachloroethylene	<u>ND</u>
	Carbon Tetrachloride	<u>ND</u>	1,4 Dichlorobenzene	_____	Lindane	_____	Toxaphene	_____
	Chlordane	<u>ND</u>	1,2 Dichloroethane	<u>ND</u>	Mercury	<u>ND</u>	Trichloroethylene	<u>ND</u>
	Chlorobenzene	<u>ND</u>	1,1-Dichloroethylene	<u>ND</u>	Methoxychlor	_____	2,4,5-Trichlorophenol	_____
	Chloroform	<u>ND</u>	2,4-Dinitrotoluene	<u>ND</u>	Methyl Ethyl Ketone	<u>ND</u>	2,4,6-Trichlorophenol	_____
	Chromium	<u>ND</u>	Endrin	_____	Nitrobenzene	_____	2,4,5TP (Silvex)	_____
	o-Cresol	_____	Heptachlor	_____	Pentachlorophenol	_____	Vinyl Chloride	<u>ND</u>

Other (list): TPH - 35,600 PCB - NON-DETECT

Other Information: Delivery Method: Bulk ☒ Other \_\_\_\_\_  
 Regulatory Agency Approval Received: Yes ☐ No ☐ Permit Number \_\_\_\_\_  
 Material Safety Data Sheet Provided: Yes ☐ No ☐

## GENERATOR CERTIFICATION

To the best of my knowledge, the information provided above is accurate and the material is not classified as a hazardous waste in accordance with current regulations.

Authorized Representative

Signature: Myrl Wear  
 Name: Myrl R Wear  
 Title: Environmental Control Manager  
 Date: 7/15/93

## FOR OFFICE USE ONLY

Conditions for Acceptance \_\_\_\_\_

1. Originating Division Manager \_\_\_\_\_ Date \_\_\_\_\_  
 2. Disposal Facility Manager \_\_\_\_\_ Date \_\_\_\_\_  
 3. District Manager \_\_\_\_\_ Date \_\_\_\_\_  
 4. Regional Engineer \_\_\_\_\_ Date \_\_\_\_\_

Recertification Frequency: Bi Annual ☐ Annual ☐ Semi Annual ☐



MISSOURI DEPARTMENT OF NATURAL RESOURCES  
WASTE MANAGEMENT PROGRAM  
SPECIAL WASTE DISPOSAL REQUEST

SECTION I GENERAL INFORMATION (TO BE COMPLETED BY THE GENERATOR AND LANDFILL OPERATOR)	
DISPOSAL FACILITY	WASTE GENERATOR
NAME Southeast Landfill	Armco STEEL, INC.
ADDRESS 8300 Indiana, P.O. Box 5192	7000 Robert S
CITY, STATE, ZIP CODE Kansas City, Missouri 64132	KANSAS City, MO
TELEPHONE NUMBER (816) 523-6266	816-242-5855
PERMIT NO. 109515	N/A
CONTACT PERSON Carla McDowell	Mryl WEAR

SECTION II WASTE CHARACTERIZATION (TO BE COMPLETED BY THE GENERATOR)	
A. NAME OF WASTE Soil From WASTE oil STORAGE Area	
B. DESCRIPTION OF GENERATION PROCESS Clean up OF WASTE oil STORAGE Area	
C. (CHECK ONE) (1.) <input checked="" type="checkbox"/> SOLID      (2.) <input type="checkbox"/> SLUDGE (20% OR GREATER SOLIDS)      (3.) <input type="checkbox"/> SLURRY (20% OR LESS SOLIDS) (4.) <input type="checkbox"/> LIQUID (5% OR LESS SOLIDS)      (5.) <input type="checkbox"/> OTHER - SPECIFY _____	
(INDICATE) % SOLIDS BY WEIGHT <u>100%</u> ; SPECIFIC GRAVITY _____; PUMPABLE: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO; ODOR: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO; FREE FLUID: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO; pH <u>Neutral</u> ; FLASHPOINT <u>&gt;200°C</u>	
D. WAS THE WASTE EVER CLASSIFIED OR LISTED HAZARDOUS? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, SPECIFY THE EPA WASTE NUMBER _____	
E. LIST BELOW THE CHEMICAL COMPOSITION (ATTACH ANY ADDITIONAL ANALYSIS)	
MAJOR COMPONENTS	% BY WEIGHT
1. <u>ANALYTICAL ATTACHED</u>	
2. _____	
3. _____	
4. _____	
F. SOURCE OF CHEMICAL DATA	

SECTION III GENERATION RATE/DISPOSAL FREQUENCY* (TO BE COMPLETED BY GENERATOR)	
A. AVERAGE GENERATION RATE (CUBIC YARDS PER WEEK, POUNDS PER MONTH, ETC.) _____	
B. DISPOSAL REQUEST [COMPLETE (1) OR (2)]: (1) <input checked="" type="checkbox"/> Continual (or intermittent) If disposal is to be made on a continual or intermittent basis, indicate the <u>quantity</u> and <u>frequency</u> of disposal _____ (cubic yards per week, pounds per month, etc.) Indicate the quantity available for immediate disposal, if applicable _____ (2) <input type="checkbox"/> One - time only If one - time only, indicate the total amount to be disposed of _____	

\*NOTE ► INDICATE APPROPRIATE UNITS (TONS, GALLONS, POUNDS, CUBIC YARDS, ETC.)

SECTION IV TRANSPORTATION (TO BE COMPLETED BY GENERATOR OR LANDFILL OPERATOR)	
A. CONTAINERS USED FOR TRANSPORTATION (CHECK ONE) (1) <input checked="" type="checkbox"/> BULK ( _____ CU. YD.); (2) <input type="checkbox"/> METAL DRUMS ( _____ GAL.); (3) <input type="checkbox"/> CASES, CARTONS (SIZE _____); (4) <input type="checkbox"/> FIBER DRUMS ( _____ GALS.); (5) OTHER - SPECIFY _____	
B. TYPE OF VEHICLE (1) <input type="checkbox"/> TRACTOR-TRAILER; (2) <input checked="" type="checkbox"/> ROLL-OFF/LUGGER; (3) <input type="checkbox"/> DUMP TRUCK; (4) <input type="checkbox"/> (OTHER) _____	

**SECTION V DISPOSAL TECHNIQUES (TO BE COMPLETED BY THE LANDFILL OPERATOR)**

A. ☐ SEPARATE TRENCH BURIAL

(1) LOCATION ON LANDFILL SITE \_\_\_\_\_

(2) TRENCH DESIGN PREVIOUSLY APPROVED BY DNR? ☐ YES ☐ NO IF NOT, ATTACH REQUEST FOR APPROVAL

B. ☐ CO-DISPOSAL WITH MUNICIPAL WASTE ON ACTIVE FILL FACE

1. AVERAGE DAILY QUANTITY OF MUNICIPAL SOLID WASTE \_\_\_\_\_ (SPECIFY TONS OR CUBIC YARDS)

2. SPECIAL WASTE TO BE UNLOADED AT: XX TOE OF WORKING FACE

\_\_\_\_\_ TOP OF WORKING FACE

C. ☐ OTHER DISPOSAL PROCEDURES - SPECIFY \_\_\_\_\_

**SECTION VI HANDLING PROCEDURES (TO BE COMPLETED BY GENERATOR)**

Safety precautions during handling: Provide handling information supplied by product manufacturer, waste generator, or from other sources, describing the necessary measures that should be taken to protect personal safety, to control dusting, or to ensure fixed placement of waste. This should include a description of materials not compatible with this waste.

All Laidlaw Waste Systems personnel have completed the "Waste Assessment Plan  
and Procedure" for the handling and disposal of special wastes/

**SECTION VII CERTIFICATION (TO BE COMPLETED BY GENERATOR AND LANDFILL OPERATOR)**

I, the undersigned, submit this request to dispose of the named waste and certify that the information supplied by me herein is correct. I understand approval to dispose of the waste may be suspended if false information has been submitted or if the disposal operation is not performed in a proper and legal manner.

SIGNATURE OF LANDFILL OPERATOR OR AUTHORIZED REPRESENTATIVE

PRINT NAME/TITLE

Carla C. McDowell, Account Executive

DATE

I, the undersigned, submit this request to dispose of the named waste and certify that the waste named herein, to the best of my knowledge, is not a hazardous waste as defined by the Missouri Waste Management Law and Rules, and that the information supplied by me is correct.

SIGNATURE OF WASTE GENERATOR OR AUTHORIZED REPRESENTATIVE

PRINT NAME/TITLE

Myr/R. Wear, Environmental Control Manager

DATE

7/15/93

ADDITIONAL COMMENTS

MAIL THE COMPLETED FORM TO:

MISSOURI DEPARTMENT OF NATURAL RESOURCES  
WASTE MANAGEMENT PROGRAM  
P.O. BOX 176  
JEFFERSON CITY, MISSOURI 65102



## Sampling Information

- 1.A Sampling time: date 5/28/93 time 12:30
- 1.E Sampling location (be specific: hopper, drum, excavation, tank, etc.):  
Composite of soil @ waste oil drum storage Area
- 1.C Sampler's Name Loren STAFFORD Telephone 816-891-7717
- 1.D Sampler's Firm (if different from Generator) TERRACON
- 1.E Address 7810 N.W. 100TH  
City KANSAS CITY State MO. Zip 64153  
Phone 816-891-7717
- 1.F Was a Generator's representative present during sampling?  
yes \_\_\_\_\_ no X
- G Briefly describe sampling method and equipment used:  
A HAND AUGER WAS USED TO COLLECT ADEQUATE  
SOIL FROM SEVERAL LOCATIONS TO <sup>FILL</sup> ~~MAKE~~ ALL THE JARS  
NECESSARY TO SAMPLE ALL PARAMETERS

### Representative Sampling Certification

I hereby certify that the methods and equipment described above in section 1.G are an accurate record of the sampling procedure used.  
I also certify that the above-mentioned methods resulted in obtaining a sample that is representative of the waste.

Sampler's Signature

Witness' Signature

"If the sampler is not an employee of the generator, the generator should provide a witness during the sampling."





## REPORT OF LABORATORY ANALYSIS

Terracon Consultants EC, Inc.  
7810 NW. 100th Street  
P.O. Box 901541  
Kansas City, MO 64190-1541

June 21, 1993  
PACE Project Number: 530528524

Attn: Mr. Randy Alewine

Client Reference: ARMC0 Drums - 50935076

PACE Sample Number: 60 0082650  
Date Collected: 05/28/93  
Date Received: 05/28/93  
Client Sample ID: Tank Farm  
Pond Comp.

Parameter	Units	MDL	Leachate (1)	METHOD	DATE ANALYZED
-----------	-------	-----	-----------------	--------	---------------

### INORGANIC ANALYSIS

#### 8 RCRA METALS - LEACHATE - TCLP

Barium, Leachate - TCLP	mg/L	5.0	ND		06/21/93
Cadmium, Leachate - TCLP	mg/L	0.05	ND		06/21/93
Chromium, Leachate - TCLP	mg/L	0.25	ND		06/21/93
Lead, Leachate - TCLP	mg/L	0.25	ND		06/21/93
Silver, Leachate - TCLP	mg/L	0.25	ND		06/21/93
Arsenic, Leachate - TCLP	mg/L	0.25	ND		06/21/93
Selenium, Leachate - TCLP	mg/L	0.25	ND		06/21/93
Mercury, Leachate - TCLP	mg/L	0.010	ND		06/21/93

### ORGANIC ANALYSIS

#### VOLATILE ORGANIC COMPOUNDS, LEACHATE-TCLP

Vinyl Chloride	mg/L	0.2	ND	TCLP	06/15/93
1,1-Dichloroethylene	mg/L	0.7	ND		06/15/93
Chloroform	mg/L	6.0	ND		06/15/93
1,2-Dichloroethane	mg/L	0.5	ND		06/15/93
2-Butanone (MEK)	mg/L	200.0	ND		06/15/93
Carbon Tetrachloride	mg/L	0.5	ND		06/15/93
Trichloroethylene	mg/L	0.5	ND		06/15/93
Benzene	mg/L	0.5	ND		06/15/93
Tetrachloroethylene	mg/L	0.7	ND		06/15/93
Chlorobenzene	mg/L	100.0	ND		06/15/93
1,2-Dichloroethane-d4 (Surrogate)	%		78		06/15/93
Toluene-d8 (Surrogate)	%		107		06/15/93
4-Bromofluorobenzene (Surrogate)	%		100		06/15/93



## REPORT OF LABORATORY ANALYSIS

Mr. Randy Alewine  
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June 21, 1993  
PACE Project Number: 530528524

Client Reference: ARMCO Drums - 50935076

PACE Sample Number:  
Date Collected:  
Date Received:  
Client Sample ID:

60 0082642  
05/28/93  
05/28/93  
Tank Farm  
Pond

Parameter	Units	MDL	Composite	METHOD	DATE ANALYZED
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### INORGANIC ANALYSIS

#### INDIVIDUAL PARAMETERS

Flash Point	Degrees F		> 200		06/17/93
Free Liquids Test			PASS	SW846 9095	06/04/93
T. Petroleum Hydrocarbons - IR by 418.1	mg/kg	10	35600	418.1	06/01/93
TOTAL REACTIVITY				SW846	
Cyanide, Reactive	mg/kg	1.0	ND		06/02/93
Sulfide, Reactive	mg/kg	10	ND		06/10/93

### ORGANIC ANALYSIS

#### PCBS IN SOLIDS/LIQUIDS/SOLVENTS

Aroclor 1016	mg/kg	1.0	ND		06/05/93
Aroclor 1221	mg/kg	1.0	ND		06/05/93
Aroclor 1232	mg/kg	1.0	ND		06/05/93
Aroclor 1242	mg/kg	1.0	ND		06/05/93
Aroclor 1248	mg/kg	1.0	ND		06/05/93
Aroclor 1254	mg/kg	1.0	ND		06/05/93
Aroclor 1260	mg/kg	1.0	ND		06/05/93
Dibutylchlorodate (Surrogate)	%		90		06/05/93
PCB Prep Date			6/2/933		06/07/93



## REPORT OF LABORATORY ANALYSIS

Mr. Randy Alewine  
Page 3

June 21, 1993  
PACE Project Number: 530528524

Client Reference: ARMCO Drums - 50935076

These data have been reviewed and are approved for release.

Brian J. Smith  
Manager, Inorganic Chemistry

Neal R. Hudson  
Manager, Organic Chemistry



## REPORT OF LABORATORY ANALYSIS

Mr. Randy Alewine  
Page 4

FOOTNOTES  
for pages 1 through 3

June 21, 1993  
PACE Project Number: 530528524

Client Reference: ARMCO Drums - 50935076

> Greater than reported value.  
MDL Method Detection Limit  
ND Not detected at or above the MDL.  
(1) All analysis performed on Toxic Characteristic Leachate.



## REPORT OF LABORATORY ANALYSIS

Mr. Randy Alewine  
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### QUALITY CONTROL DATA

June 21, 1993  
PACE Project Number: 530528524

Client Reference: ARMCO Drums - 50935076

Lead, Leachate - TCLP  
Batch: 60 19311  
Samples: 60 0082650

### METHOD BLANK AND SAMPLE DUPLICATE:

<u>Parameter</u>	<u>Units</u>	<u>MDL</u>	<u>Method Blank</u>	<u>600013012</u>	<u>Duplicate of 60 0013012</u>	<u>RPD</u>
Lead, Leachate - TCLP	mg/L	0.25	ND	ND	ND	NC

### SPIKE:

<u>Parameter</u>	<u>Units</u>	<u>MDL</u>	<u>600013012</u>	<u>Spike</u>	<u>Spike Recv</u>
Lead, Leachate - TCLP	mg/L	0.25	ND	1.00	95%

### LABORATORY CONTROL SAMPLE:

<u>Parameter</u>	<u>Units</u>	<u>MDL</u>	<u>Reference Value</u>	<u>Recv</u>
Lead, Leachate - TCLP	mg/L	0.25	1.00	91%



## REPORT OF LABORATORY ANALYSIS

Mr. Randy Alewine  
Page 6

### QUALITY CONTROL DATA

June 21, 1993  
PACE Project Number: 530528524

Client Reference: ARMC0 Drums - 50935076

Sulfide, Reactive  
Batch: 60 22340  
Samples: 60 0082642

### SAMPLE DUPLICATE:

Parameter	Units	MDL	600082723	Duplicate of 60 0082723	RPD
Sulfide, Reactive	mg/kg	10	ND	ND	NC



## REPORT OF LABORATORY ANALYSIS

Mr. Randy Alewine  
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### QUALITY CONTROL DATA

June 21, 1993  
PACE Project Number: 530528524

Client Reference: ARMCO Drums - 50935076

### PCBS IN SOLIDS/LIQUIDS/SOLVENTS

Batch: 60 22195  
Samples: 60 0082642

### METHOD BLANK:

Parameter	Units	MDL	Method Blank
Aroclor 1016	mg/kg	1.0	ND
Aroclor 1221	mg/kg	1.0	ND
Aroclor 1232	mg/kg	1.0	ND
Aroclor 1242	mg/kg	1.0	ND
Aroclor 1248	mg/kg	1.0	ND
Aroclor 1254	mg/kg	1.0	ND
Aroclor 1260	mg/kg	1.0	ND
Dibutylchloroendate (Surrogate)	%		92

### SPIKE AND SPIKE DUPLICATE:

Parameter	Units	MDL	600079463	Spike	Spike Recv	Spike Dupl Recv	RPD
Aroclor 1242	mg/kg	1.0	ND	5.0	82%	88%	7%
Aroclor 1260	mg/kg	1.0	ND	5.0	86%	84%	2%

### LABORATORY CONTROL SAMPLE:

Parameter	Units	MDL	Reference Value	Recv
Aroclor 1254	mg/kg	1.0	25.0	93%

## REPORT OF LABORATORY ANALYSIS

Mr. Randy Alewine  
Page 8

### QUALITY CONTROL DATA

June 21, 1993  
PACE Project Number: 530528524

Client Reference: ARMCO Drums - 50935076

VOLATILE ORGANIC COMPOUNDS, LEACHATE-TCLP

Batch: 60 22528

Samples: 60 0082650

### METHOD BLANK:

Parameter	Units	MDL	Method Blank
Vinyl Chloride	mg/L	0.2	ND
1,1-Dichloroethylene	mg/L	0.7	ND
Chloroform	mg/L	6.0	ND
1,2-Dichloroethane	mg/L	0.5	ND
2-Butanone (MEK)	mg/L	200.0	ND
Carbon Tetrachloride	mg/L	0.5	ND
Trichloroethylene	mg/L	0.5	ND
Benzene	mg/L	0.5	ND
Tetrachloroethylene	mg/L	0.7	ND
Chlorobenzene	mg/L	100.0	ND
1,2-Dichloroethane-d4 (Surrogate)	%		82
toluene-d8 (Surrogate)	%		114
4-Bromofluorobenzene (Surrogate)	%		118





## REPORT OF LABORATORY ANALYSIS

Mr. Randy Alewine  
Page 9

FOOTNOTES  
for pages 5 through 8

June 21, 1993  
PACE Project Number: 530528524

Client Reference: ARMC0 Drums - 50935076

MDL	Method Detection Limit
NC	No calculation due to value below detection limit.
ND	Not detected at or above the MDL.
RPD	Relative Percent Difference

**CHAIN-OF-CUSTODY RECORD**  
Analytical Request

Client TERIACON  
Address 7810 NW 100th  
KCMO  
Phone 816 891 7717

Report To TERIACON  
Bill To TERIACON  
P.O. # / Billing Reference 50935076  
Project Name / No. ARMCO DRUMS/50935076

Pace Client No. \_\_\_\_\_  
Pace Project Manager DRB  
Pace Project No. 5300  
Requested Due Date: RECEIVED

Sampled By (PRINT): LOREN STAFFORD  
Sampler Signature \_\_\_\_\_ Date Sampled \_\_\_\_\_

S-28

ITEM NO.	SAMPLE DESCRIPTION	TIME	MATRIX	PACE NO.	NO. OF CONTAINERS	PRESERVATIVES				ANALYSES REQUEST	REMARKS
						UNPRESERVED	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	VOA		
1	TANK FARM/POND Comp	1140	SOIL	50935076 608215	5	✓				TCLP Metals TCLP VOCs TPH PCB FLAM POINT PAINT FILTER CYANIDE REACT SULFIDE REACT	
2											
3											
4											
5											
6											
7											
8											

COOLER NOS.	BAILERS	SHIPMENT METHOD		ITEM NUMBER	RELINQUISHED BY / AFFILIATION	ACCEPTED BY / AFFILIATION	DATE	TIME
		OUT / DATE	RETURNED / DATE	1	L. Stafford TERIACON	Loren Stafford	5/21/03	11:00
Additional Comments								

Terracon

**B: Special Waste Permit Application,  
Analytical Data and Approval for  
Disposal of Waste Grease (July, 1993)**

# Terracon

ENVIRONMENTAL, INC.

7810 N. W. 100th  
P.O. Box 901541  
Kansas City, Missouri 64190-1541  
(816) 891-7717

James A. Cunningham, P.E.  
Robert L. Sholar  
S. Randy Alewine, P.E.  
Gilbert M. Zemansky, Ph.D.  
Robert L. Fine II, E.I.T.  
Michael S. Kukuk, P.G.  
Sharon T. Arteaga, P.E.  
Julie H. Pflugradt

December 21, 1992

Ms. Carla McDowell  
83rd and Indiana  
P.O. Box 5192  
Kansas City, MO 64132

RE: Application for disposal of Special Waste at Laidlaw Landfill.

Dear Ms. McDowell:

Armco World Wide Grinding Systems located at 7000 Roberts Road, Kansas City, MO 64125 has approximately 300 55 gallon drums that contain waste grease and oil dry saturated with oil which they would like to dispose of in the Laidlaw Landfill. A composite sample of 15 of the drums was collected on 11/9/92 and submitted to Pace Laboratories<sup>1</sup> for chemical analysis specified by Laidlaw.

Enclosed with this letter you will find:

1. A completed Laidlaw special waste application form for oil and grease waste that Armco World Wide Grinding System.
2. A Missouri Department of Natural Resources (MDNR) Special Waste Permit Application with the generator portion completed.
3. A completed sample certification form.
4. A copy of the laboratory analysis report on the oil and grease waste.

If you have any questions about any of the forms listed above please contact myself at (816)-891-7717. Thank you for your assistance in this application procedure.

Sincerely,

*Michael W. McMenus*

Michael W. McMenus, CHMM  
Environmental Chemist

<sup>1</sup>Pace Laboratories  
9608 Loiret Boulevard  
Lenexa, KS 66219

Offices of The Terracon Companies, Inc.:

Arizona: Tucson	Colorado: Colorado Springs, Denver, Ft. Collins, Greeley, Longmont	Idaho: Boise
Illinois: Bloomington, Chicago, Rock Island	Iowa: Cedar Falls, Cedar Rapids, Davenport, Des Moines, Storm Lake	
Kansas: Lenexa, Topeka, Wichita	Minnesota: St. Paul	Missouri: Kansas City
Oklahoma: Oklahoma City, Tulsa	Texas: Dallas	Utah: Salt Lake City
		Nebraska: Lincoln, Omaha
		Wyoming: Cheyenne

QUALITY ENGINEERING SINCE 1965

Code #

112253

**LANDLAW****Special Waste Acceptance Application**Generator Name: Armco World Wide Grinding SystemAddress: 7000 Roberts StreetKansas City, MO 64125-1492Telephone: (816) 242-5848

Generator Contact: \_\_\_\_\_

General Material Description: Old grease and oil dry

Originating Division: \_\_\_\_\_

Disposal Facility: \_\_\_\_\_

Location: \_\_\_\_\_

Waste Quantities: 300 drums Units: Cubic Yds ☐ Tons ☐Frequency of Receipt: Daily ☐ Weekly ☐ Monthly ☐ One Time ☒

Other \_\_\_\_\_

**Physical Properties**Physical State at 70°F: Solid ☒ Semi-solid ☐ Liquid ☐ Density: \_\_\_\_\_ Color: \_\_\_\_\_Viscosity: Low ☐ Medium ☐ High ☒ Flash Point: >100°F ☒ Boil: Yes ☐ No ☐Water Content: \_\_\_\_\_ % by Weight Paint Filter Test: Passed ☒ Failed ☐Reactive: No ☒ Yes ☐ With \_\_\_\_\_Waste pH: \_\_\_\_\_ Infectious: Yes ☐ No ☒**Chemical Properties (Concentrations in mg/l)**

(TCLP)

Arsenic	ND	m-Cresol	ND	Hexachlorobenzene	ND	Pyridine	ND
Barium	8.39	p-Cresol	ND	Hexachlorobutadiene	ND	Selenium	ND
Benzene	ND	Cresol	ND	Hexachloroethane	ND	Silver	ND
Cadmium	ND	2,4-D	ND	Lead	3.49	Tetrachloroethylene	ND
Carbon Tetrachloride	ND	1,4-Dichlorobenzene	ND	Lindane	ND	Toxaphene	ND
Chlordane	ND	1,2-Dichloroethane	ND	Mercury	ND	Trichloroethylene	ND
Chlorobenzene	ND	1,1-Dichloroethylene	ND	Methoxychlor	ND	2,4,6-Trichlorophenol	ND
Chloroform	ND	2,4-Dinitrotoluene	ND	Methyl Ethyl Ketone	ND	2,4,6-Trichlorophenol	ND
Chromium	ND	Endrin	ND	Naphthalene	ND	2,4,6-Trichlorophenol	ND
p-Cresol	ND	Heptachlor	ND	Phenol	ND	2,4,6-Trichlorophenol	ND

Other: \_\_\_\_\_

Other Information: Delivery Method: Bulk ☒ Other ☐Regulatory Agency Approval Received: Yes ☒ No ☐ Permit Number: \_\_\_\_\_Material Safety Data Sheet Provided: Yes ☒ No ☐**GENERATOR CERTIFICATION**

To the best of my knowledge, the information provided above is accurate and the material is not classified as a hazardous waste in accordance with current regulations.

Authorized Representative

Signature \_\_\_\_\_

Name \_\_\_\_\_

Title \_\_\_\_\_

Date \_\_\_\_\_

**FOR OFFICE USE ONLY****Conditions for Acceptance**

1. Originating Division Manager

Date \_\_\_\_\_

2. Disposal Facility Manager

Date \_\_\_\_\_

3. District Manager

Date \_\_\_\_\_

4. Regional Engineer

Date \_\_\_\_\_

Recertification Frequency: Bi Annual ☒ Annual ☐ Semi Annual ☐





MISSOURI DEPARTMENT OF NATURAL RESOURCES  
WASTE MANAGEMENT PROGRAM  
SPECIAL WASTE DISPOSAL REQUEST

SECTION I. GENERAL INFORMATION (TO BE COMPLETED BY THE GENERATOR AND LANDFILL OPERATOR)	
DISPOSAL FACILITY	WASTE GENERATOR
NAME Land Resource & Recovery	Armco World Wide Grinding Systems
ADDRESS 722 Dix Road	7000 Roberts Road
CITY, STATE, ZIP CODE Jefferson City, Missouri 65102	Kansas City, MO 64125-1492
TELEPHONE NUMBER (314) 635-8805/(816) 523-6266	816-242-5848
PERMIT NO. 105105	N/A
CONTACT PERSON Rick Graham/Carla McDowell	
SECTION II. WASTE CHARACTERIZATION (TO BE COMPLETED BY THE GENERATOR)	
A. NAME OF WASTE Waste petroleum grease and oil dry mixed with used oil.	
B. DESCRIPTION OF GENERATION PROCESS Clean up of Armco Facility	
C. (CHECK ONE) (1) <input checked="" type="checkbox"/> SOLID (2) <input type="checkbox"/> SLUDGE (20% OR GREATER SOLIDS) (3) <input type="checkbox"/> SLURRY (20% OR LESS SOLIDS) (4) <input type="checkbox"/> LIQUID (5% OR LESS SOLIDS) (5) <input type="checkbox"/> OTHER - SPECIFY _____	
(INDICATE % SOLIDS BY WEIGHT 100% SPECIFIC GRAVITY 1.0 PUMPABLE: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO ODOR: <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO FREE FLUID: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO PH 6.5 FLASHPOINT 200 C	
D. WAS THE WASTE EVER CLASSIFIED OR LISTED HAZARDOUS? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, SPECIFY THE EPA WASTE NUMBER _____	
E. LIST BELOW THE CHEMICAL COMPOSITION (ATTACH ANY ADDITIONAL ANALYSIS) Cyanide - ND TPH (418.1) - 100% T. Sulfide 5 ppm	
MAJOR COMPONENTS	% BY WEIGHT
1. Grease	70-90
2. Oil Dry	5-10
3. Oil	5-10
4. Debris (wood, wire, pipe, etc)	5-10
F. SOURCE OF CHEMICAL DATA _____	
SECTION III. GENERATION RATE/DISPOSAL FREQUENCY (TO BE COMPLETED BY GENERATOR)	
A. AVERAGE GENERATION RATE (CUBIC YARDS PER WEEK, POUNDS PER MONTH, ETC.) _____	
B. DISPOSAL REQUEST (COMPLETE (1) OR (2)): (1) <input type="checkbox"/> Continual (or intermittent) If disposal is to be made on a continual or intermittent basis, indicate the quantity and frequency of disposal _____ (cubic yards per week, pounds per month, etc.) Indicate the quantity available for immediate disposal, if applicable: _____ (2) <input type="checkbox"/> One-time only If one-time only, indicate the total amount to be disposed of: _____	
NOTE: INDICATE APPROPRIATE UNITS (TONS, GALLONS, ROUNDS, CUBIC YARDS, ETC.)	
SECTION IV. TRANSPORTATION (TO BE COMPLETED BY GENERATOR OR LANDFILL OPERATOR)	
A. CONTAINERS USED FOR TRANSPORTATION (CHECK ONE) (1) <input type="checkbox"/> BULK (____ CU. YD.) (2) <input checked="" type="checkbox"/> METAL DRUMS (____ 55 GAL.) (3) <input type="checkbox"/> CASES, CARTONS (SIZE _____) (4) <input type="checkbox"/> FIBER DRUMS (____ GALS.) (5) OTHER - SPECIFY _____	
TYPE OF VEHICLE (1) <input type="checkbox"/> TRACTOR-TRAILER (2) <input type="checkbox"/> ROLL-OFF/LUGGER (3) <input type="checkbox"/> DUMP TRUCK (4) <input checked="" type="checkbox"/> (OTHER) Dump Trailer	

**SECTION V - DISPOSAL TECHNIQUES (TO BE COMPLETED BY THE LANDFILL OPERATOR)****A. ☐ SEPARATE TRENCH BURIAL**

(1) LOCATION ON LANDFILL SITE \_\_\_\_\_

(2) TRENCH DESIGN PREVIOUSLY APPROVED BY DNR? ☐ YES ☐ NO IF NOT, ATTACH REQUEST FOR APPROVAL**B. ☐ CO-DISPOSAL WITH MUNICIPAL WASTE ON ACTIVE FILL FACE**

1. AVERAGE DAILY QUANTITY OF MUNICIPAL SOLID WASTE \_\_\_\_\_

(SPECIFY TONS OR CUBIC YARDS)

2. SPECIAL WASTE TO BE UNLOADED AT: \_\_\_\_\_ TOE OF WORKING FACE

\_\_\_\_\_ TOP OF WORKING FACE

**C. ☐ OTHER DISPOSAL PROCEDURES - SPECIFY \_\_\_\_\_****SECTION VI - HANDLING PROCEDURES (TO BE COMPLETED BY GENERATOR)**

Safety precautions during handling: Provide handling information supplied by product manufacturer, waste generator, or from other sources, describing the necessary measures that should be taken to protect personal safety, to control dusting, or to ensure fixed placement of waste. This should include a description of materials not compatible with this waste.

Prevent contact with skin. Waste is not flammable but will burn if exposed to fire.

**SECTION VII - CERTIFICATION (TO BE COMPLETED BY GENERATOR AND LANDFILL OPERATOR)**

I, the undersigned, submit this request to dispose of the named waste and certify that the information supplied by me herein is correct. I understand approval to dispose of the waste may be suspended if false information has been submitted or if the disposal operation is not performed in a proper and legal manner.

SIGNATURE OF LANDFILL OPERATOR OR AUTHORIZED REPRESENTATIVE \_\_\_\_\_

PRINT NAME/TITLE \_\_\_\_\_

DATE \_\_\_\_\_

I, the undersigned, submit this request to dispose of the named waste and certify that the waste named herein, to the best of my knowledge, is not a hazardous waste as defined by the Missouri Waste Management Law and Rules, and that the information supplied by me is correct.

SIGNATURE OF WASTE GENERATOR OR AUTHORIZED REPRESENTATIVE \_\_\_\_\_

PRINT NAME/TITLE \_\_\_\_\_

DATE \_\_\_\_\_

Michael W. McMenus, CHMM  
Terracon, Inc. (816) 891-7717

12/21/92

ADDITIONAL COMMENTS \_\_\_\_\_

Certified Laboratory Analysis are attached.

MAIL THE COMPLETED FORM TO:

MISSOURI DEPARTMENT OF NATURAL RESOURCES  
WASTE-MANAGEMENT PROGRAM  
P.O. BOX 176  
JEFFERSON CITY, MISSOURI 65102

**LATD/LAW****Sampling Information**1.A Sampling time: date 11/9/92 time 08:001.B Sampling location (be specific: hopper, drum, excavation, tank, etc.):  
Collection of waste grease drums in warehousean aliquot was obtained from 15 separate drums and composited into one sample  
and Submitted to Pace labs.1.C Sampler's Name Michael W. McMenus Telephone (816)-891-77171.D Sampler's Firm (if different from Generator) Terracon, Inc.

1.E Address

City Kansas City State MO Zip 64153Phone (816)-891-7717

1.F Was a Generator's representative present during sampling?

yes no X

1.G Briefly describe sampling method and equipment used:

Wooden spatulas were used to scoop grease and oily waste out of 15 different  
Drums. The samples were then mixed in sample jars and submitted to Pace Labs.**Representative Sampling Certification**

I hereby certify that the methods and equipment described above in section 1.G are an accurate report of the sampling procedure used.  
I also certify that the above-described methods resulted in obtaining a sample that is representative of the waste.

Sampler's Signature

Michael W. McMenus

Witness Signature

Loren S. Stafford

If the sampler is not an employee of the generator, the generator should provide a witness during the sampling.



**REPORT OF LABORATORY ANALYSIS**

November 30, 1992

Mr. Mike McMenus  
Terracon Environmental, Inc.  
7810 NW 100th  
Kansas City, MO 64153

RE: PACE Project No. 521111.508  
Client Reference: Armco 50915114

Dear Mr. McMenus:

Enclosed is the report of laboratory analyses for samples received November 11, 1992.

Footnotes are given at the end of the report.

If you have any questions concerning this report, please feel free to contact us.

Sincerely,

Duane R. Boline, Ph.D.  
Director, Sampling and Analytical Services

Enclosures



## REPORT OF LABORATORY ANALYSIS

erracon Environmental, Inc.  
7810 NW 100th  
Kansas City, MO 64153

November 30, 1992  
PACE Project Number: 521111508

Attn: Mr. Mike McMenus

Client Reference: Armco 50915114

PACE Sample Number:  
Date Collected:  
Date Received:  
Client Sample ID:

60 0158614  
11/09/92  
11/11/92  
Waste  
Oil

<u>Parameter</u>	<u>Units</u>	<u>MDL</u>	<u>Leachate**</u>	<u>DATE ANALYZED</u>
------------------	--------------	------------	-------------------	----------------------

### INORGANIC ANALYSIS

#### 8 RCRA METALS - LEACHATE

Barium, Leachate	mg/L	5.0	8.39	11/20/92
Cadmium, Leachate	mg/L	0.05	ND	11/20/92
Chromium, Leachate	mg/L	0.25	ND	11/20/92
Lead, Leachate	mg/L	0.25	3.49	11/20/92
Silver, Leachate	mg/L	0.25	ND	11/20/92
Arsenic, Leachate	mg/L	0.25	ND	11/20/92
Selenium, Leachate	mg/L	0.25	ND	11/20/92
Mercury, Leachate	mg/L	0.010	ND	11/20/92

### ORGANIC ANALYSIS

#### SEMI-VOLATILE ORGANIC COMPOUNDS, LEACHATE

1,4-Dichlorobenzene	mg/L	7.5	ND	11/20/92
2-Methylphenol	mg/L	200.0	ND	11/20/92
3-Methylphenol	mg/L	200.0	ND	11/20/92
4-Methylphenol	mg/L	200.0	ND	11/20/92
Nitrobenzene	mg/L	2.0	ND	11/20/92
Hexachloro-1,3 Butadiene	mg/L	0.5	ND	11/20/92
2,4,6-Trichlorophenol	mg/L	2.0	ND	11/20/92
2,4,5-Trichlorophenol	mg/L	400.0	ND	11/20/92
2,4-Dinitrotoluene	mg/L	0.13	ND	11/20/92
Hexachlorobenzene	mg/L	0.13	ND	11/20/92
Pentachlorophenol	mg/L	100.0	ND	11/20/92
Pyridine	mg/L	5.0	ND	11/20/92
Hexachloroethane	mg/L	3.0	ND	11/20/92
Nitrobenzene-D5 (Surrogate)	%		100	11/20/92

\*\* See sample footnote at end of report.

## REPORT OF LABORATORY ANALYSIS

r. Mike McMenus  
Page 2

November 30, 1992  
PACE Project Number: 521111508

Client Reference: Armco 50915114

PACE Sample Number:  
Date Collected:  
Date Received:  
Client Sample ID:

60 0158614

11/09/92

11/11/92

Waste

Oil

Leachate\*\* DATE ANALYZED

### Parameter

Units

MDL

### ORGANIC ANALYSIS

#### SEMI-VOLATILE ORGANIC COMPOUNDS, LEACHATE

Parameter	Units	MDL	Leachate**	DATE ANALYZED
2-Fluorobiphenyl (Surrogate)	%		82	11/20/92
Terphenyl-D14 (Surrogate)	%		24	11/20/92
Phenol-D6 (Surrogate)	%		87	11/20/92
2-Fluorophenol (Surrogate)	%		41	11/20/92
2,4,6-Tribromophenol (Surrogate)	%		21	11/20/92
TCLP BNAS Prep			11/20/92	

#### RCRA HERBICIDES, LEACHATE

Parameter	Units	MDL	Leachate**	DATE ANALYZED
2,4-D	ug/L	10.0	ND	11/24/92
2,4,5-TP (SILVEX)	ug/L	1.0	ND	11/24/92
TCLP Herbicides Prep			11/20/92	
Dichlorophenyl Acetic Acid (Surrogate)	%		59	11/24/92

#### RCRA PESTICIDES, LEACHATE

Parameter	Units	MDL	Leachate**	DATE ANALYZED
Chlordane by TCLP	mg/L	0.03	ND	11/23/92
Endrin by TCLP	mg/L	0.02	ND	11/23/92
Heptachlor by TCLP	mg/L	0.008	ND	11/23/92
Toxaphene by TCLP	mg/L	0.5	ND	11/23/92
Lindane	mg/L	0.40	ND	11/23/92
Methoxychlor	mg/L	10.0	ND	11/23/92
Heptachlor Epoxide	mg/L	0.008	ND	11/23/92
TCLP Pesticides Prep			11/20/92	
Decachlorobiphenyl (Surrogate)	%		85	11/23/92
Tetrachloro-meta-xylene Surrogate	%		72	11/23/92

#### VOLATILE ORGANIC COMPOUNDS, LEACHATE

Parameter	Units	MDL	Leachate**	DATE ANALYZED
Vinyl Chloride	mg/L	0.2	ND	11/24/92
1,1-Dichloroethylene	mg/L	0.7	ND	11/24/92
Chloroform	mg/L	6.0	ND	11/24/92
1,2-Dichloroethane	mg/L	0.5	ND	11/24/92
2-Butanone (MEK)	mg/L	200.0	ND	11/24/92

\*\* See sample footnote at end of report.

## REPORT OF LABORATORY ANALYSIS

Mr. Mike McMenus  
Page 3

November 30, 1992  
PACE Project Number: 521111508

Client Reference: Armco 50915114

PACE Sample Number:  
Date Collected:  
Date Received:  
Client Sample ID:

60 0158614  
11/09/92  
11/11/92  
Waste  
Oil

Parameter	Units	MDL	Leachate**	DATE ANALYZED
-----------	-------	-----	------------	---------------

### ORGANIC ANALYSIS

#### VOLATILE ORGANIC COMPOUNDS, LEACHATE

Carbon Tetrachloride	mg/L	0.5	ND	11/24/92
Trichloroethylene	mg/L	0.5	ND	11/24/92
Benzene	mg/L	0.5	ND	11/24/92
Tetrachloroethylene	mg/L	0.7	ND	11/24/92
Chlorobenzene	mg/L	100.0	ND	11/24/92
1,2-Dichloroethane-d4 (Surrogate)	%		105	11/24/92
Toluene-d8 (Surrogate)	%		97	11/24/92
4-Bromofluorobenzene (Surrogate)	%		94	11/24/92

\*\* See sample footnote at end of report.

# REPORT OF LABORATORY ANALYSIS

Mr. Mike McMenus  
Page 4

November 30, 1992  
PACE Project Number: 521111508

Client Reference: Armco 50915114

PACE Sample Number:	60 0158606
Date Collected:	11/09/92
Date Received:	11/11/92
Client Sample ID:	Waste
Parameter	Oil
Units	MDL
	DATE ANALYZED

## INORGANIC ANALYSIS


### INDIVIDUAL PARAMETERS

Cyanide, Total by 335.2	mg/kg	1.0	ND	11/19/92
Flash Point	Degrees F		> 200	11/24/92
Free Liquids Test			PASS	11/13/92
PH 10% Solution			6.5	11/23/92
T. Petroleum Hydrocarbons - IR	%	0.01	100	11/12/92
Total Sulfide by 376.1	mg/kg	4.00	5	11/13/92

These data have been reviewed and are approved for release.



Brian J. Smith  
Manager, Inorganic Chemistry



Neal R. Hudson  
Manager, Organic Chemistry

## REPORT OF LABORATORY ANALYSIS

Mr. Mike McMenus  
Page 5

FOOTNOTES  
for pages 1 through 4

November 30, 1992  
PACE Project Number: 521111508

Client Reference: Armco 50915114

Waste Oil Leachate  
All analysis performed on Toxic Characteristic Leachate.

> Greater than reported value.  
MDL Method Detection Limit  
ND Not detected at or above the MDL.

## REPORT OF LABORATORY ANALYSIS

r. Mike McMenus  
Page 6

QUALITY CONTROL DATA

November 30, 1992  
PACE Project Number: 521111508

Client Reference: Armco 50915114

Cyanide, Total by 335.2  
Batch: 60 17634  
Samples: 60 0158606

### LABORATORY CONTROL SAMPLE:

Parameter	Units	MDL	Reference Value	Recv
Cyanide, Total by 335.2	mg/kg	1.0	55.0	100%

## REPORT OF LABORATORY ANALYSIS

Mr. Mike McMenus  
Page 7

### QUALITY CONTROL DATA

November 30, 1992  
PACE Project Number: 521111508

Client Reference: Armco 50915114

T. Petroleum Hydrocarbons - IR  
Batch: 60 17712  
Samples: 60 0158606

### METHOD BLANK AND SAMPLE DUPLICATE:

Parameter	Units	MDL	Method Blank	600157570	Duplicate of 60 0157570	RPD
T. Petroleum Hydrocarbons - IR	mg/kg	10	ND	33	42	24%

### SPIKE:

Parameter	Units	MDL	600157596	Spike	Spike Recv
T. Petroleum Hydrocarbons - IR	mg/kg	10	ND	166	99%





## REPORT OF LABORATORY ANALYSIS

Mr. Mike McMenus  
Page 8

### QUALITY CONTROL DATA

November 30, 1992  
PACE Project Number: 521111508

Client Reference: Armco 50915114

Total Sulfide by 376.1  
Batch: 60 17513  
Samples: 60 0158606

### SAMPLE DUPLICATE:

Parameter	Units	MDL	600158606 Waste Oil	Duplicate of 60 0158606	RPD
Total Sulfide by 376.1	mg/kg	4.00	5	ND	NC

## REPORT OF LABORATORY ANALYSIS

Mr. Mike McMenus  
Page 9

### QUALITY CONTROL DATA

November 30, 1992  
PACE Project Number: 521111508

Client Reference: Armco 50915114

8 RCRA METALS - LEACHATE  
Batch: 60 17642  
Samples: 60 0158614

### METHOD BLANK AND SAMPLE DUPLICATE:

Parameter	Units	MDL	Method Blank	800141450	Duplicate of 80 0141450	RPD
Barium, Leachate	mg/L	5.0	ND	ND	ND	NC
Cadmium, Leachate	mg/L	0.05	ND	58.0	60.0	3%
Chromium, Leachate	mg/L	0.25	ND	ND	ND	NC
Lead, Leachate	mg/L	0.25	ND	17.0	18.0	6%
Silver, Leachate	mg/L	0.25	ND	ND	ND	NC
Arsenic, Leachate	mg/L	0.25	ND	ND	ND	NC
Selenium, Leachate	mg/L	0.25	ND	ND	ND	NC
Mercury, Leachate	mg/L	0.010	ND	ND	ND	NC

### LABORATORY CONTROL SAMPLE:

Parameter	Units	MDL	Reference Value	Recv
Barium, Leachate	mg/L	5.0	20.0	86%
Cadmium, Leachate	mg/L	0.05	0.200	81%
Chromium, Leachate	mg/L	0.25	1.00	81%
Lead, Leachate	mg/L	0.25	1.00	81%
Silver, Leachate	mg/L	0.25	1.00	86%
Arsenic, Leachate	mg/L	0.25	1.00	83%
Selenium, Leachate	mg/L	0.25	0.500	104%
Mercury, Leachate	mg/L	0.010	0.0040	105%

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

November 30, 1992  
PACE Project Number: 521111508

Client Reference: Armco 50915114

PESTICIDES/PCBS USING METHOD 8080/608

Batch: 60 17703  
Samples: 60 0158614

### METHOD BLANK:

Parameter	Units	MDL	Method Blank
Chlordane by TCLP	mg/L	0.03	ND
Endrin by TCLP	mg/L	0.02	ND
Heptachlor by TCLP	mg/L	0.008	ND
Toxaphene by TCLP	mg/L	0.5	ND
Lindane	mg/L	0.40	ND
Methoxychlor	mg/L	10.0	ND
Heptachlor Epoxide	mg/L	0.008	ND
Decachlorobiphenyl (Surrogate)	%		92
Tetrachloro-meta-xylene Surrogate	%		71

### PIKE:

			600158614		
			Waste		
			Oil		
Parameter	Units	MDL	Leachate	Spike	Spike Recv
Chlordane by TCLP	mg/L	0.03	ND	0.05	152%
Endrin by TCLP	mg/L	0.02	ND	0.01	125%
Heptachlor by TCLP	mg/L	0.008	ND	0.01	132%
Toxaphene by TCLP	mg/L	0.5	ND	0.10	119%
Lindane	mg/L	0.40	ND	0.01	104%
Methoxychlor	mg/L	10.0	ND	0.10	115%
Heptachlor Epoxide	mg/L	0.008	ND	0.01	109%

### LABORATORY CONTROL SAMPLE:

Parameter	Units	MDL	Reference Value	Recv
Alpha-BHC	ug/L	0.05	5.0	84%
Gamma-BHC	ug/L	0.05	5.0	84%
Heptachlor	ug/L	0.05	5.0	88%
Endosulfan I	ug/L	0.05	5.0	87%
4,4'-DDE	ug/L	0.10	5.0	178%
Endrin	ug/L	0.10	10.0	88%
4,4'-DDD	ug/L	0.10	10.0	81%

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

November 30, 1992  
PACE Project Number: 521111508

Client Reference: Armco 50915114

PESTICIDES/PCBS USING METHOD 8080/608

Batch: 60 17703

Samples: 60 0158614

### LABORATORY CONTROL SAMPLE:

Parameter	Units	MDL	Reference Value	Recv
4,4'-DDT	ug/L	0.10	10.0	121%
Methoxychlor	ug/L	0.50	50.0	87%

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

November 30, 1992  
PAQE Project Number: 521111508

Client Reference: Armco 50915114

RCRA HERBICIDES, LEACHATE

Batch: 60 17784

Samples: 60 0158614

### METHOD BLANK:

Parameter	Units	MDL	Method Blank
2,4-D	ug/L	10.0	ND
2,4,5-TP (SILVEX)	ug/L	1.0	ND
Dichlorophenyl Acetic Acid (Surrogate)	%		54

### SPIKE:

			600158614		
			Waste		
			Oil		
Parameter	Units	MDL	Leachate	Spike	Spike Recv
2,4-D	ug/L	10.0	ND	222	110%
2,4,5-TP (SILVEX)	ug/L	1.0	ND	22.2	84%

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

November 30, 1992  
PACE Project Number: 521111508

Client Reference: Armco 50915114

SEMI-VOLATILE ORGANIC COMPOUNDS, LEACHATE

Batch: 60 17720

Samples: 60 0158614

### METHOD BLANK:

Parameter	Units	MDL	Method Blank
1,4-Dichlorobenzene	mg/L	7.5	ND
2-Methylphenol	mg/L	200.0	ND
3-Methylphenol	mg/L	200.0	ND
4-Methylphenol	mg/L	200.0	ND
Nitrobenzene	mg/L	2.0	ND
Hexachloro-1,3 Butadiene	mg/L	0.5	ND
2,4,6-Trichlorophenol	mg/L	2.0	ND
2,4,5-Trichlorophenol	mg/L	400.0	ND
2,4-Dinitrotoluene	mg/L	0.13	ND
Hexachlorobenzene	mg/L	0.13	ND
Pentachlorophenol	mg/L	100.0	ND
Pyridine	mg/L	5.0	ND
Hexachloroethane	mg/L	3.0	ND
Nitrobenzene-D5 (Surrogate)	%		84
2-Fluorobiphenyl (Surrogate)	%		48
Terphenyl-D14 (Surrogate)	%		92
Phenol-D6 (Surrogate)	%		99
2-Fluorophenol (Surrogate)	%		73
2,4,6-Tribromophenol (Surrogate)	%		112

### SPIKE:

Parameter	Units	MDL	100295191	Spike	Spike Recv
1,4-Dichlorobenzene	mg/L	7.5	ND		&
2-Methylphenol	mg/L	200.0	ND		&
3-Methylphenol	mg/L	200.0	ND		&
Nitrobenzene	mg/L	2.0	ND		&
Hexachloro-1,3 Butadiene	mg/L	0.5	ND		&
2,4,6-Trichlorophenol	mg/L	2.0	ND		&
2,4,5-Trichlorophenol	mg/L	400.0	ND		&
2,4-Dinitrotoluene	mg/L	0.13	ND		&
Hexachlorobenzene	mg/L	0.13	ND		&

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

November 30, 1992  
PACE Project Number: 521111508

Client Reference: Armco 50915114

### SEMI-VOLATILE ORGANIC COMPOUNDS, LEACHATE

Batch: 60 17720  
Samples: 60 0158614

### SPIKE:

Parameter	Units	MDL	100295191	Spike	Spike Recv
Pentachlorophenol	mg/L	100.0	ND		&
Pyridine	mg/L	5.0	ND		&
Hexachloroethane	mg/L	3.0	ND		&

### LABORATORY CONTROL SAMPLE:

Parameter	Units	MDL	Reference Value	Recv
1,4-Dichlorobenzene	mg/L	7.5	62.5	58%
2-Methylphenol	mg/L	200.0	62.5	81%
3-Methylphenol	mg/L	200.0	125.0	80%
Nitrobenzene	mg/L	2.0	62.5	93%
Hexachloro-1,3 Butadiene	mg/L	0.5	62.5	58%
2,4,6-Trichlorophenol	mg/L	2.0	62.5	91%
2,4,5-Trichlorophenol	mg/L	400.0	187.5	93%
2,4-Dinitrotoluene	mg/L	0.13	62.5	107%
Hexachlorobenzene	mg/L	0.13	62.5	124%
Pentachlorophenol	mg/L	100.0	187.5	162%
Hexachloroethane	mg/L	3.0	62.5	59%

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

November 30, 1992  
PACE Project Number: 521111508

Client Reference: Armco 50915114

VOLATILE ORGANIC COMPOUNDS, LEACHATE

Batch: 60 17747

Samples: 60 0158614

### METHOD BLANK:

Parameter	Units	MDL	Method Blank
Vinyl Chloride	mg/L	0.2	ND
1,1-Dichloroethylene	mg/L	0.7	ND
Chloroform	mg/L	6.0	ND
1,2-Dichloroethane	mg/L	0.5	ND
2-Butanone (MEK)	mg/L	200.0	ND
Carbon Tetrachloride	mg/L	0.5	ND
Trichloroethylene	mg/L	0.5	ND
Benzene	mg/L	0.5	ND
Tetrachloroethylene	mg/L	0.7	ND
Chlorobenzene	mg/L	100.0	ND
1,2-Dichloroethane-d4 (Surrogate)	%		102
Toluene-d8 (Surrogate)	%		104
1-Bromofluorobenzene (Surrogate)	%		103

### SPIKE:

Parameter	Units	MDL	100339482	Spike	Spike Recv
Vinyl Chloride	mg/L	0.2	ND	1.0	87%
1,1-Dichloroethylene	mg/L	0.7	ND	1.0	90%
Chloroform	mg/L	6.0	ND	1.0	106%
1,2-Dichloroethane	mg/L	0.5	ND	1.0	117%
2-Butanone (MEK)	mg/L	200.0	ND	1.0	110%
Carbon Tetrachloride	mg/L	0.5	ND	1.0	92%
Trichloroethylene	mg/L	0.5	ND	1.0	96%
Benzene	mg/L	0.5	ND	1.0	103%
Tetrachloroethylene	mg/L	0.7	ND	1.0	71%
Chlorobenzene	mg/L	100.0	ND	1.0	98%



## REPORT OF LABORATORY ANALYSIS

Mr. Mike McMenus  
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FOOTNOTES  
for pages 6 through 15

November 30, 1992  
PACE Project Number: 521111508

Client Reference: Armco 50915114

&	Recovery not calculated because solution units don't match
MDL	Method Detection Limit
NC	No calculation due to value below detection limit.
ND	Not detected at or above the MDL.
RPD	Relative Percent Difference

7810 NORTHWEST 100th  
KANSAS CITY, MISSOURI 64153  
PHONE: (816) 891-7717  
FAX: (816) 891-7048

PAGE \_\_\_\_ OF \_\_\_\_

☐ 24hr ☐ 48hr ☐ 5 day  
☒ STANDARD  
☐ PROVIDE VERBAL PRELIMINARY RESULTS  
 OTHER

PROJECT NAME <i>Armco</i>	PROJECT NUMBER <i>#50915114</i>
SAMPLERS (SIGNATURE) <i>Cover Stafford</i>	RESULTS ATTENTION TO: <i>Michael W. McGinnis</i>

[illegible][illegible]

ANALYSIS		METHOD	REMARKS
BTEX	TPH	8020	
		418.11 - 0.02	
		TCLP metals + organics (Full)	
		TPH (418.1)	
		Paint filter	
		Flash - closed cup	
		Cyanide Sulfide	
		pH	
			15860.6
			15861.4
			Project #
			521111508

SHIPPING VIA: <i>Hand</i>	
SHIPPING #	PRIORITY: <i>Routine</i>

SPECIAL INSTRUCTIONS/COMMENTS

Info also on methods used were supplied by Mike McNamee.

CO# 11/11/92

1410h

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
<i>Loren Stafford</i>	<i>[Signature]</i>		
SIGNATURE	SIGNATURE	SIGNATURE	SIGNATURE
<i>Loren Stafford</i>	<i>RODNEY L. MANN</i>		
PRINTED NAME	PRINTED NAME	PRINTED NAME	PRINTED NAME
<i>Tennison</i>	<i>PAK, INC.</i>		
FIRM	FIRM	FIRM	FIRM
<i>11-19-92</i>	<i>11/15/92 11:40</i>		
DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME

**C: Special Waste Permit Application,  
Analytical Data and Approval for  
Disposal of Waste Grease and Oil  
(April 1993)**



WASTE SYSTEMS (KANSAS CITY) INC.

April 27, 1993

Mr. James Armes  
Missouri Department of Natural Resources  
Kansas City Regional Office  
3800 South Elizabeth, Suite G  
Independence, Missouri 64055

Dear Mr. Armes:

Enclosed is a "Special Waste Disposal Request" from Armco Steel of Kansas City, Missouri. The waste stream is waste petroleum grease and oil dry mixed with used oil. The process generating the waste is from an environmental cleanup of the facility.

With this request, I have attached a copy of the laboratory analysis. Should you have any questions, please feel free to call me at your earliest convenience.

Very truly yours,

Carla C. McDowell

LAIDLAW WASTE SYSTEMS, INC.  
Southeast Sanitary Landfill

Enclosures

cc: Mike McMenus, Terracon Environmental, Inc.



MISSOURI DEPARTMENT OF NATURAL RESOURCES  
WASTE MANAGEMENT PROGRAM  
SPECIAL WASTE DISPOSAL REQUEST

**SECTION I GENERAL INFORMATION (TO BE COMPLETED BY THE GENERATOR AND LANDFILL OPERATOR)**

DISPOSAL FACILITY	WASTE GENERATOR
NAME Southeast Landfill	Armco World Wide Grinding Systems
ADDRESS 8300 Indiana, PO Box 5192	7000 Roberts
CITY, STATE, ZIP CODE Kansas City, Missouri 64132	Kansas City, Missouri 64125-1492
TELEPHONE NUMBER (816) 523-6266	(816) 242-5848
PERMIT NO. 109515	N/A
CONTACT PERSON Carla C. McDowell	Charles Fillinger

**SECTION II WASTE CHARACTERIZATION (TO BE COMPLETED BY THE GENERATOR)**

A. NAME OF WASTE  
Waste petroleum grease and oil dry mixed with used oil.

B. DESCRIPTION OF GENERATION PROCESS  
Clean up of Armco Facility

C. (CHECK ONE)

(1.) ☒ SOLID (2.) ☐ SLUDGE (20% OR GREATER SOLIDS) (3.) ☐ SLURRY (20% OR LESS SOLIDS)

(4.) ☐ LIQUID (5% OR LESS SOLIDS) (5.) ☐ OTHER - SPECIFY \_\_\_\_\_

(INDICATE) % SOLIDS BY WEIGHT 100%;  
SPECIFIC GRAVITY 1.0; PUMPABLE: ☐ YES ☒ NO; ODOR: ☒ YES ☐ NO; FREE FLUID: ☐ YES ☒ NO;  
pH 6.5; FLASHPOINT 200 F

D. WAS THE WASTE EVER CLASSIFIED OR LISTED HAZARDOUS? ☐ YES ☒ NO IF YES, SPECIFY THE EPA WASTE NUMBER \_\_\_\_\_

E. LIST BELOW THE CHEMICAL COMPOSITION (ATTACH ANY ADDITIONAL ANALYSIS)  
Cyanide - ND, TPH (418.1) - 100% Sulfide 5 ppm

MAJOR COMPONENTS	% BY WEIGHT
1. Grease	70-90
2. Oil Dry	5-10
3. Oil	5-10
4. Debris (wood, wire, pipe, etc.)	5-10

F. SOURCE OF CHEMICAL DATA

**SECTION III GENERATION RATE/DISPOSAL FREQUENCY\* (TO BE COMPLETED BY GENERATOR)**

A. AVERAGE GENERATION RATE (CUBIC YARDS PER WEEK, POUNDS PER MONTH, ETC.) \_\_\_\_\_

B. DISPOSAL REQUEST [COMPLETE (1) OR (2)]:

(1) ☐ Continual (or intermittent)  
If disposal is to be made on a continual or intermittent basis, indicate the quantity and frequency of disposal \_\_\_\_\_ (cubic yards per week, pounds per month, etc.)  
Indicate the quantity available for immediate disposal, if applicable \_\_\_\_\_

(2) ☒ One - time only  
If one - time only, indicate the total amount to be disposed of 300-55 gallon metal drums

\*NOTE ► INDICATE APPROPRIATE UNITS (TONS, GALLONS, POUNDS, CUBIC YARDS, ETC.)

**SECTION IV TRANSPORTATION (TO BE COMPLETED BY GENERATOR OR LANDFILL OPERATOR)**

A. CONTAINERS USED FOR TRANSPORTATION (CHECK ONE)

(1) ☐ BULK ( \_\_\_\_\_ CU. YD.); (2) ☒ METAL DRUMS ( 55 GAL.); (3) ☐ CASES, CARTONS (SIZE \_\_\_\_\_);

(4) ☐ FIBER DRUMS ( \_\_\_\_\_ GALS.); (5) OTHER - SPECIFY \_\_\_\_\_

B. TYPE OF VEHICLE

(1) ☐ TRACTOR-TRAILER; (2) ☐ ROLL-OFF/LUGGER; (3) ☐ DUMP TRUCK; (4) ☒ (OTHER) Dump trailer

**SECTION V DISPOSAL TECHNIQUES (TO BE COMPLETED BY THE LANDFILL OPERATOR)****A. ☐ SEPARATE TRENCH BURIAL**

- (1) LOCATION ON LANDFILL SITE \_\_\_\_\_  
(2) TRENCH DESIGN PREVIOUSLY APPROVED BY DNR? ☐ YES ☐ NO IF NOT, ATTACH REQUEST FOR APPROVAL

**B. ☒ CO-DISPOSAL WITH MUNICIPAL WASTE ON ACTIVE FILL FACE**

1. AVERAGE DAILY QUANTITY OF MUNICIPAL SOLID WASTE 1500 tons (SPECIFY TONS OR CUBIC YARDS)  
2. SPECIAL WASTE TO BE UNLOADED AT: XX TOE OF WORKING FACE  
\_\_\_\_\_ TOP OF WORKING FACE

**C. ☐ OTHER DISPOSAL PROCEDURES - SPECIFY \_\_\_\_\_****SECTION VI HANDLING PROCEDURES (TO BE COMPLETED BY GENERATOR)**

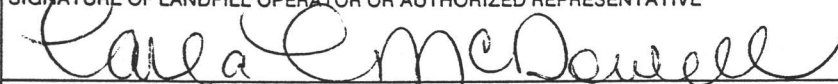
Safety precautions during handling: Provide handling information supplied by product manufacturer, waste generator, or from other sources, describing the necessary measures that should be taken to protect personal safety, to control dusting, or to ensure fixed placement of waste. This should include a description of materials not compatible with this waste.

Prevent contact with skin. Waste is not flammable but will burn if exposed to fire.

**SECTION VII CERTIFICATION (TO BE COMPLETED BY GENERATOR AND LANDFILL OPERATOR)**

I, the undersigned, submit this request to dispose of the named waste and certify that the information supplied by me herein is correct. I understand approval to dispose of the waste may be suspended if false information has been submitted or if the disposal operation is not performed in a proper and legal manner.

SIGNATURE OF LANDFILL OPERATOR OR AUTHORIZED REPRESENTATIVE



PRINT NAME/TITLE

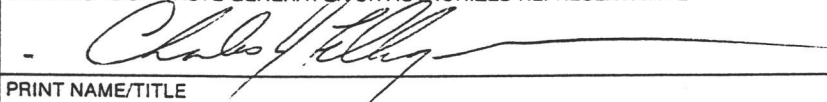
Carla C. McDowell, Account Executive

DATE

01/14/93

I, the undersigned, submit this request to dispose of the named waste and certify that the waste named herein, to the best of my knowledge, is not a hazardous waste as defined by the Missouri Waste Management Law and Rules, and that the information supplied by me is correct.

SIGNATURE OF WASTE GENERATOR OR AUTHORIZED REPRESENTATIVE



PRINT NAME/TITLE

Charles Fillinger, Senior Staff Engineer

DATE

01/14/93

ADDITIONAL COMMENTS


MAIL THE COMPLETED FORM TO:

MISSOURI DEPARTMENT OF NATURAL RESOURCES  
WASTE MANAGEMENT PROGRAM  
P.O. BOX 176  
JEFFERSON CITY, MISSOURI 65102

PLEASE TYPE OR PRINT

U.S. AIRBILL

001 (9/91) W992

1 FROM (COMPANY NAME) LAIDLAW WASTE SYST ADDRESS 83RD & INDIANA CITY STATE ZIP CODE (REQUIRED) KANSAS CITY MO 64132 SENT BY (NAME/DEPT.) Carla McConell PHONE 816-523-6266		ORIGIN MCJ AIRBILL NUMBER 2453013463	
2 TO (COMPANY NAME) Mo. Dept of Natural Resources ADDRESS 3800 S. Elizabeth, Suite 6 CITY STATE ZIP CODE (REQUIRED) Indep. Mo. 64055 ATTN: (NAME/DEPT.) Mr. James Armes PHONE		4 CUSTOMER AIRBORNE EXPRESS ACCOUNT NUMBERS SENDER 41936000 RECEIVER	
3 SENDER SIGNATURE Carla DATE 4/27/93		5 METHOD OF PAYMENT (ASSUMED SENDER UNLESS OTHERWISE NOTED) <input checked="" type="checkbox"/> BILL SENDER <input type="checkbox"/> BILL RECEIVER Airborne Account No. <input type="checkbox"/> BILL 3RD PARTY <input type="checkbox"/> PAID IN ADVANCE Check No. Amount BILLING REFERENCE (WILL APPEAR ON INVOICE)	
SHIPMENT VALUATION <input type="checkbox"/> DECLARED VALUE OR <input type="checkbox"/> FULL INSURANCE \$ PREPRINT FORMAT NO. 1846460		6 NO. OF PKGS WEIGHT (LBS.) SUBJECT TO CORRECTION 7 CHECK IF <input type="checkbox"/> LETTER EXPRESS <input type="checkbox"/> EXPRESS PACK SPECIAL INSTRUCTIONS <input type="checkbox"/> SATURDAY DELIVERY <input type="checkbox"/> HOLD AT AIRBORNE EXPRESS <input type="checkbox"/> LAB PACK <input type="checkbox"/> SELECT DELIVERY SERVICE THANK YOU FOR SHIPPING WITH AIRBORNE EXPRESS AIRBORNE SIGNATURE DATE TIME ROUTE	
DROP OFF LOCATION <input type="checkbox"/> AIRBORNE TERMINAL <input type="checkbox"/> DROP BOX No.		EXECUTIVE OFFICES P.O. BOX 662, SEATTLE, WA 98111-0662  USE THIS AIRBILL FOR SHIPMENTS WITHIN THE U.S. & TO AND FROM PUERTO RICO. ABSENT A HIGHER SHIPMENT VALUATION, CARRIER'S LIABILITY IS LIMITED TO \$100 PER PACKAGE, OR ACTUAL VALUE, WHICHEVER IS LESS. SPECIAL OR CONSEQUENTIAL DAMAGES ARE NOT RECOVERABLE. SEE TERMS AND CONDITIONS ON REVERSE SIDE OF THIS NON-NEGOTIABLE AIRBILL. SCAC-AIRB FED I.D. NO. 91-0837469	

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